

REMARKS

Applicant has carefully reviewed the Official Action dated February 9, 2007 for the above identified patent application.

At page 2, first paragraph of the Official Action, the Examiner has objected to the preamble of the claim on the grounds that the recitation "for connecting a threaded rock bolt to an impact rock drilling machine", at lines 1 - 2 of the claim, is a statement of intended use, and does not positively claim the recited structure. The Examiner has stated that if the structure to be positively recited, the term "for" should be deleted from line 1 of Claim 1.

In response to the Examiner's suggestion, Claim 1 has been amended to delete the term "for" from line 1 of the claim. Accordingly, the claim now positively recites the relationship and structure of the coupling sleeve connecting a threaded rock bolt to an impact rock drilling machine.

At page 2, last paragraph of the Official Action, Claim 1 has been objected to on the grounds that the expression "said locking device cooperating" at lines 10 - 11 of the claim, refers to intended use phraseology in the preamble of the claim. As noted above, the preamble of Claim 1 has been amended to delete the intended use phraseology. Accordingly, the amendment to the preamble of the claim to delete the intended use phraseology

overcomes the objection to Claim 1 raised at page 2, last paragraph of the Official Action.

At page 3 of the Official Action, Claim 1 has been rejected under 35 U.S.C. Section 102(b) as being anticipated by the Ponto patent (U.S. Patent No. 1,701,985). For the reasons to be discussed below, Applicant respectfully submits that the Ponto patent does not anticipate (or suggest) the device defined by independent Claim 1, when all positively recited features of the claim are considered in the patentability determination.

Applicant notes that the device disclosed and claimed in the pending application is directed to a coupling sleeve connecting a threaded rock bolt to a drilling machine. On the contrary, the Ponto patent discloses a tool joint for a sucker rod for pumping deep wells, although it also refers to a rotary drill pipe or the like.

The coupling sleeve disclosed and claimed by Applicant is used when reinforcing a rock by enforcing rock bolts. The coupling sleeve both connects a rock drilling machine to a rock bolt, and also insures that the percussion energy from the drilling machine is transmitted to the rock bolt.

In the coupling sleeve disclosed and claimed by Applicant, the screwed end portion of a bolt shank is connected to the bottom of the threaded first part of the coupling sleeve, and the

screwed shank end portion of the drilling machine is connected to the bottom of the threaded second part of the coupling sleeve. In this manner, impact energy from the percussion drilling machine is transmitted to the rock bolt during a percussion operation. However, during a percussion transmission (i.e., when the drilling machine is in use), there is no load on the locking device (7) of the drilling sleeve disclosed and claimed by Applicant. On the contrary, the locking device (7) of the coupling sleeve is used after the completion of the percussion transmission operation in order to assure that the rock drilling machine remains locked to the coupling sleeve when the threaded connection between the coupling sleeve and the rock bolt is disconnected (See, for example, page 2, first paragraph, last sentence, and page 2, second paragraph, lines 4 - 5, of Applicant's specification).

Thus, the coupling sleeve disclosed and claimed by Applicant connects a drilling machine to a rock bolt to insure transmission of percussion energy from the drilling machine to the rock bolt, and also provides locking means to retain the coupling sleeve connected to the drilling machine even after the coupling sleeve has been disconnected from the rock bolt.

Contrary to the coupling sleeve disclosed and claimed by Applicant, the Ponto patent discloses a tool joint comprising a box (7, 17) for joining two sucker rods (1, 2), and further

comprises a coupling sleeve for preventing the rods from unscrewing from the box (7, 17) during a pumping operation.

Applicant respectfully submits that the rejection of Claim 1 made in the Official Action, combines different features of two different embodiments of the Ponto patent, and there is no single embodiment which anticipates (or suggests) the coupling sleeve disclosed and claimed by Applicant, as discussed below.

The first embodiment of the Ponto patent referred to in the Official Action discloses a tool joint comprising a threaded box (7), threaded parts (5, 6) of two sucker rods (1, 2) screwed into the threaded box (7), and a coupling sleeve (11) surrounding the box (7). Additionally, a locking pin (14) is inserted in one of the sucker rods (1) for preventing upward movement of the sleeve during a pumping operation (See page 1, lines 45 - 55 of the Ponto specification).

The second embodiment disclosed in the Ponto patent and referred to in the Official Action, is a tool joint comprising a box (17) and a threaded part of a sucker rod (16) comprising an unthreaded lower part (15) acting as a guide when inserted into the box (17), and a coupling sleeve (11) that fits over the box (17). Aligned holes (18, 19) are provided in the box (17) and in the threaded part of the sucker rod (16). The aligned holes are adapted to receive a locking pin extending therethrough.

The basic difference between Applicant's claimed coupling sleeve and that of the coupling sleeve disclosed by Ponto is that Applicant's coupling sleeve is threaded, while the coupling sleeve of Ponto is not threaded. Instead, it is the box (7, 17) of Ponto that is threaded.

A further basic difference between Applicant's claimed coupling sleeve and the device disclosed by the Ponto patent is that in Applicant's claimed device, the rock bolt and the shank adapter are inserted into the coupling sleeve connection with the bottom parts (3, 5) of the coupling sleeve, so that the locking device (7) is unloaded during a percussion transmission operation (See page 2, second paragraph, lines 3 - 4 of Applicant's specification). Therefore, the locking device disclosed and claimed by Applicant is only loaded during disconnection of the parts (e.g., the locking device prevents the rock drilling machine from separating from the coupling sleeve even when the bolt is disconnected from the coupling sleeve, See page 2, last sentence of Applicant's specification). This feature of Applicant's invention is positively recited in independent Claim 1 which expressly states that the locking device prevents separation of the coupling sleeve and the rock drilling machine.

Contrary to the coupling sleeve disclosed and claimed by Applicant, the Ponto patent discloses a tool joint comprising a sleeve (11) with a locking device comprising a locking pin (14) that keeps the sucker rods (1, 2) in position, thereby being

exposed to a load during a pumping operation. Moreover, when disconnecting the Ponto tool joint, the locking pin (14) must be removed (See page 1, lines 59 - 60 of the Ponto specification).

Applicant also disagrees with the conclusion in the Official Action that the coupling sleeve disclosed by Ponto is capable of connecting a threaded rock bolt to an impact drilling machine as is now positively recited in Applicant's independent Claim 1. The locking pin (14) in the first embodiment disclosed in the Ponto patent is located outside the sleeve (11). In the second embodiment disclosed by the Ponto patent, the threaded part (16) is not screwed into the bottom of the box (17). On the contrary, it is screwed into the position where the holes (18, 19) are in corresponding positions. Applicant therefore submits that neither of the two embodiments disclosed in the Ponto patent are suitable for transmitting the large magnitude of power of an impact drilling machine. It will be well understood by persons skilled in the relevant art that in both embodiments disclosed in the Ponto patent, the locking pin (14) will rupture, and since the threaded part (16) is not screwed into the bottom of the box (17), there will be no transmission of percussion energy.

\* \* \*

It is well established that a rejection of a claim as being anticipated by a prior art reference requires the Patent & Trademark Office to establish a strict identity of invention

between the rejected claim and a single prior art reference. Stated in other words, a rejection of a claim as being anticipated by a prior art reference is inappropriate unless a single applied prior art reference discloses all features of the claim, as arranged in the claim. See, for example, Connell v. Sears, Roebuck & Co., 220 USPQ 193 (Fed. Cir. 1983).

In the instant case, there is clearly no strict identity of invention between the coupling sleeve defined by independent Claim 1, and the disclosure of the Ponto patent, when all positively recited structure and arrangement of structure of Applicant's claimed device are considered in the patentability determination. Therefore, Applicant respectfully requests that the rejection of Claim 1 as being anticipated by the Ponto patent be reconsidered and withdrawn.

The Official Action did not reject the claim as being obvious over the Ponto patent. Applicant respectfully submits that any rejection of independent Claim 1 as being obvious over the Ponto patent would also be inappropriate. As discussed herein, the structure, structural arrangement and function of the coupling sleeve defined by independent Claim 1, when all positively recited features are considered, is not recognized or suggested by the disclosure of the Ponto patent.

For the reasons discussed herein, Applicant respectfully submits that independent Claim 1 is in condition for allowance, and favorable action is respectfully requested.

Respectfully submitted,



Mark P. Stone  
Reg. No. 27,954  
Attorney for Applicant  
25 Third Street, 4th Floor  
Stamford, CT 06905  
(203) 329-3355